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MCGWG-M-11

COMOR MAPPING, CHARTING, AND GEODESY WORKING GROUP

Minutes of Meeting Held in Room 5B2830  
Central Intelligence Agency, Langley  
1400-1620, 4 February 1966

PRESIDING

Deputy Chairman

MEMBERS PRESENT

Mr. D. R. Holben, AFNIN

CONSULTANTS PRESENT

Objectives of the Meeting

1. [ ] opened the meeting with an expression of condolence on the part of the COMOR MC&G Working Group for the absence of [ ] who was absent due to a death in his family. In addition, [ ] will be adsent for several weeks on official travel. [ ] indicated that the MC&G Working Group should proceed with the work at hand during [ ] absence, and that this particular meeting should cover matters related to obtaining COMOR and USIB approval of R&D requirements for [ ] for mapping, charting, and geodesy, and should also treat the matter of programming pan geometry improvements for the KH-4 system, now on hand, and the next MC&G KH-4 mission. Before undertaking these matters, [ ] asked the Army Map Service representatives to give a report on the results of recent satellite collection efforts as pertain to MC&G requirements.

DIA review(s) completed.

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Report on Recent Collection Efforts

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2. [ ] of AMS presented a briefing which showed that 1027, a search-surveillance mission, was operational for only one day, but provided a total of approximately 249,000 square miles of KH-4 cover outside the Sino-Soviet area. 1028, a search surveillance mission, operated for approximately 10 days, but the second half of the mission was only partially successful, since the stellar index camera was not operating. However, the mission did yield approximately 516,000 square miles of stereo panoramic KH-4 coverage outside the Sino-Soviet area. Coverage obtained in this mission brought the total acceptable KH-4 coverage now on hand outside the Sino-Soviet areas to a total of over 9,000,000 square miles. [ ] demonstrated that the recoverage requirements approved last fall for approximately 400,000 square miles inside the Sino-Soviet area were approximately 50 per cent fulfilled as of this time. These recoverage requirements were related to obtaining improved coverage for purposes of both accuracy and economy in those areas where both Army and Air Force production units were presently preparing compilation bases. After discussion, it was concluded that Army Map Service representatives should contact Air Force and Navy production units, as well as the production activities within Army, to update these recoverage requirements in keeping with planned production within the next six months.

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Research and Development Requirements for MC&G Acquisition Systems

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3. [ ] asked [ ] for comments in behalf of the DoD with regard to the brief generalized paper on this subject as prepared by [ ] and circulated to members of the Working Group as MCGWG-D-7/1, dated 25 January 1966. [ ] expressed that the paper prepared by [ ] did, in fact, represent a good start on a brief generalized expression of MC&G requirements in language considered appropriate for subsequent action by COMOR and USIB. He further indicated that while there were significant modifications and changes in emphasis that DoD representatives felt were needed, such changes could be made in [ ] paper while retaining the basic approach used by [ ]. Examples cited included the need to include accuracy requirements related to present weapons systems, as well as future systems requirements, and the fact that present satellite acquisition systems are not meeting all mapping and charting requirements particularly as applies to large scale maps. Further, the fulfillment of

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positioning and elevation requirements, world-wide, needs to reflect the input of overt acquisition systems. The Group discussed a number of other considerations, and agreed on other minor modifications that would improve the paper and retain the basic approach initiated by [redacted] [redacted] stated that he would arrange for appropriate revisions as discussed at the meeting to be made in the paper prepared by [redacted] and that a second draft would be circulated for the review of committee members prior to the next meeting.

#### Additions and Modifications to R&D Requirements

4. DIA had forwarded to the Chairman of the Working Group a paper on the above subject based on the conclusions of the previous Working Group meeting. This DIA paper set forth the basis for the accuracy requirements and expressed minor substantive modifications to the requirements paper based on recent DoD experiences. In response to the Chairman's request, [redacted] briefly described the material covered. Minor modifications included increased detail requirements in all-weather sensing, limitations of high altitude KH-4 for medium scale map production, and the matter of expressing focal length for the index camera to improve geometry. [redacted] indicated that the DIA paper would be forwarded to members for review, such that any comments on the substantive material presented could be brought out at the next meeting.

#### The State-of-the-Art in Satellite Acquisition Systems

5. Discussion of R&D requirements as set forth in paragraphs 4 and 5 brought out the viewpoint of the DoD representatives that [redacted] paper on R&D requirements, and various points raised in discussion by other personnel close to satellite acquisition systems, indicated that DoD representatives were not fully cognizant of the state-of-the-art in acquisition systems capabilities and systems under fabrication. Accordingly, discussions involving whether certain requirements could be accomplished by reconnaissance systems or other systems in development were hampered by this lack of knowledge. In some cases it may be possible to better meet MC&G needs with a modification that could easily be made early in the development period. Further, this lack of understanding necessarily leads to inappropriate substantive statements in the R&D requirements paper prepared by DoD. While it was recognized in the discussion that there should be a "need-to-know" aspect to acquisition systems design and capabilities, the effectiveness of the MC&G Working Group was clearly impaired by the lack of understanding of acquisition state-of-the-art for satellite systems in general. It was recommended that the Chairman of the MC&G Working Group arrange, either through briefings within the scope of presently held operational tickets, or the granting of additional operational tickets, for Working Group members to be fully informed on acquisition systems state-of-the-art.

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Scheduling of the Next Special MC&G KH-4

6. As agreed in the 17 January 1966 meeting, [ ] reported that this subject had been considered within DoD, and it was concluded that the first pan geometry KH-4 camera system that is now being readied for operational flight on the West Coast should be used for the next special MC&G mission. It was held to be important that advantage be taken of the pan geometry characteristics in obtaining MC&G coverage. However, since the next pan geometry camera system would not be available until July at the earliest, it would be best to make use of the first pan geometry camera system in April, even though, originally, it had been planned as a search-surveillance mission which would otherwise have obtained pan geometry coverage only for test areas and other limited coverage outside the Sino-Soviet area. In further support of this conclusion, it was reasoned that if the pan geometry aspect was not completely satisfactory on the first mission, we would still have KH-4 coverage consistent with what we had obtained previously. It was brought out that it was already too late to consider turning the camera system around, should that be desirable from the standpoint of MC&G coverage requirements. However, it was determined more important to obtain extensive coverage with the first pan geometry system, even though the direction of the sun might permit some flare in the stellar photos.

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[ ] indicated that he did not think there was any major reason why the April pan geometry mission could not be used as a special MC&G from the standpoint of other collection requirements. [ ] of NRO, commented that he thought this could be arranged, but would need to make several inquiries, and would have a reply in two or three days, at which time he would notify the DIA member.

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Pan Geometry KH-4 Coverage Requirements for Test Purposes

7. [ ] indicated that the MC&G utilization community was anxious to obtain pan geometry coverage over ranges and other suitable test areas for purposes of determining how well the pan geometry system was performing in providing increased accuracy in compilation. Further, DIA wanted to use pan geometry KH-4 photography for use in a comparative production test for automatic plotting equipments now in use in the DoD, such as the [ ]. On this basis, recommendations were received from Army, Navy, and Air Force as to appropriate areas, giving consideration to weather and a cursory review of control accuracy and feature identification factors. A preliminary indication of area requirements was given,

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KH-4 Coverage for Control Point Identification

8. In accordance with paragraph 5 of the minutes of the 17 January 1966 meeting of the Working Group, [ ] and [ ] explained that the reason for requiring KH-4 coverage for approximately thirty spot locations, generally in the Southern Hemisphere, is for control identification purposes. Army Map Service is working on a multiple orbit production of the [ ] photography for completion in July 1966. As input data, all of the ground control that can be used in the orbit determination work should be included by April 1966. A number of control points or control areas in the Southern Hemisphere could be used with greater accuracy if intermediate scale photography such as 1:300,000 to 1:400,000 were available for an intermediate transfer step between the large scale photo coverage of control points and the small scale [ ] photography. DIA arranged for AMS to show the spot areas on the KH-4 indexes as first priority areas until April 1966. The Working Group agreed that NRO should treat these as first priority KH-4 collection requirements until April 1966, at which time DIA would recommend lower priorities, as appropriate.

Chairman

COMOR MCG Working Group

Copy	1	DIA TCO	[ ]
	2, 3	DIA TCO	[ ]
	4, 5	Army TCO (Mr. Matthews)	
	6, 7	Navy TCO (Mr. Wolf)	
	8, 9	Air Force TCO (Mr. Eldridge)	
	10, 11	CIA Member	[ ]
	12	NRO	[ ]
	13, 14	NPIC	[ ]
	15	State TCO (Mr. Moyer)	
	16	NSA TCO	[ ]
	17	CIA COMOR Member	
	18, 19	Ch/PWG	
	20-24	Ch/MCGWG	

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